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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,486	09/26/2005	Michio Kubota	KUBOTA 16	2976

1444 7590 01/28/2010

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EXAMINER	
WATTS, JENNA A	

ART UNIT	PAPER NUMBER
1794	

MAIL DATE	DELIVERY MODE
01/28/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/550,486	KUBOTA ET AL.	
	Examiner	Art Unit	
	Jenna A. Watts	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3 and 8-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3 and 8-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20091222*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/22/2009 has been entered.

Claim Objections

2. Claims 1 and 10 are objected to because of the following informalities: In Claim 10, the term "of" appears to be missing between "derivative" and "α,α-trehalose" in line 6 of the claim. In Claim 10, it appears that the word "alcohol" was misspelled and should be corrected. Appropriate correction is required.

Information Disclosure Statement

3. The information disclosure statement filed 12/22/2009 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent or NPL listed that is not in the English language. It has been placed in the application file, but the

information referred to therein has not been considered. In the instant case, the NPL cited are not in the English language and no English translation or explanation of relevance has been provided.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. **Claims 1, 3, and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minoru et al. (JP 09-107911), cited of record by Applicant, in view of Maruta et al. (U.S. Patent No. 5,610,047).**

8. Regarding Claims 1, 3, 9, 11 and 12, Minoru teaches a method for powderizing a non-saccharide ingredient, because Minoru teaches a method of preparing a powdered or powder perfume, wherein the perfume can be animal and vegetable fats, citrus oils, plant essential oils, peppermint oils, coffee extract, cocoa extract, a tea extract, a synthetic perfume compound, oil compound perfume constituents, or mixtures thereof, all of which are deemed non-saccharide ingredients as well as a processed agricultural product, lipid or flavor (Page 2 of machine translation, Paragraphs 6 and 7). Minoru further teaches the steps of mixing said non-saccharide ingredient in paste or liquid form because Minoru teaches mixing lemon oil, which is a liquid or paste, with an emulsifier such as dextrin or xanthan gum, trehalose and water and spray drying the resulting composition to form a powdered perfume (Page 3 of machine translation, Paragraph 16). Minoru further teaches that the powdery composition can be used for drinks, desserts, chewing gum, meat or fish processed foods, hard candy, etc. (Page 3 of machine translation, Paragraph 14). Minoru teaches that the emulsification mixture containing perfume, trehalose, an emulsifier and water can be applied to a wide range of field to give increased desirable flavor, turbidity, color tone and general appearance of palatability and stability for a long time to drinks and other foodstuffs (Page 1 of

machine translation, Paragraphs 1 and 2 and Page 4, Paragraph 22), without negative smells (Page 2 of machine translation, Paragraph 6) .

9. However, Minoru does not specifically teach the claimed saccharide derivative of α,α-trehalose in an amorphous form.

10. Maruka teaches methods of preparing saccharide derivatives of α,α-trehalose having a trehalose structure as an end unit and a glucose polymerization degree of 3 or higher using a novel enzyme (Column 20, lines 45-50 and 58-60) and teaches preparing a saccharide derivative comprising 8.5% PI, 68% PII, and 1.4% PIII as a non-reducing saccharide, and exhibits a DE (polymerization degree) of 3.5, and further teaches spray drying the derivative to form a powder rich in non-reducing saccharides (Column 27, Example A4, lines 20-25 and 27-30), the powder deemed an amorphous form as per Applicant's disclosure of amorphous powders (see instant specification, Page 28, lines 15 and 25-26). Maruka describes PI, PII, PIII as α-glucosyl trehalose, α-maltosyl trehalose, which is present in the claimed amount of greater than 30% w/w, and α-maltotriosyl trehalose, respectively (Column 19, lines 14-19). Therefore, Maruka is deemed to teach the claimed saccharide derivative of α, α-trehalose comprising the claimed amount of α-maltosyl trehalose and further comprising the other claimed saccharides in an amorphous form. Maruka teaches that the claimed derivative has a mild and high quality sweetness, as well as adequate viscosity and moisture-retaining ability, and these render it arbitrarily useful in food products, etc. as a sweetener, taste-improving agent, quality-improving agent, stabilizer and filler (Column 27, lines 30-35).

11. Maruka further teaches that the saccharide derivatives can be mixed with fillers such as dextrin (Column 12, lines 16-17). Maruka teaches that the saccharide derivatives can be used in a variety of food products, including canned and bottled products such as those of meat, fish, fruit and vegetables, fruit and vegetables in general, soft drinks such as coffee, tea, cocoa, juice, as well as for improving the taste and quality of the aforementioned food products, as well as other biologically active substances such as natural extracts (Column 13, lines 17-18, 25-26, 40-45 and 61-65).

12. Maruka further teaches that the methods for incorporating the present non-reducing saccharides into the above mentioned compositions include conventional methods of mixing, kneading, dissolving, melting, soaking, coating, spraying, crystallizing and solidifying and further teaches adding the saccharide derivatives in an amount of about 0.1% or higher, preferably 1% or higher(Column 14, lines 5-14).

13. Therefore, it would have been obvious to one of ordinary skill in the art at the time that the invention was made, for the method of powderizing a non-saccharide ingredient of Minoru to have further comprised substituting the trehalose component for the claimed saccharide derivative of Maruka, because Maruka teaches that the claimed saccharide derivative is useful as a stability and flavor agent in foods and beverages, imparting viscosity and as a general quality improver and can be combined with emulsifiers such as dextrin. One of ordinary skill in the art would have expected a reasonable degree of success in substituting one trehalose component for another, in a method of preparing a stable flavoring agent that is suitable in foods and beverages.

14. Regarding Claim 8, Minoru in view of Maruka teach that the amount of trehalose can be suitably chosen according to the kind of perfume, and the kind of emulsifier used, but generally can be used within the limits of 0.1 to 50 parts by weight of the composition (Page 2 of the machine translation, Paragraph 9).

15. Furthermore, it would have been obvious to optimize the amount of trehalose derivative used in the method of powderizing a non-saccharide ingredient, depending on the amounts of the other ingredients present in the composition and the particular application of the composition. Such optimization would be routine experimentation for one of ordinary skill in the art at the time that the invention was made, absent unexpected results.

16. Regarding Claim 10, Minoru in view of Maruka teach combining the perfume or non-saccharide ingredient in the form of a lipid with a trehalose component, emulsifier and water (see rejection of Claim 1), therefore, Minoru in view of Maruka are deemed to teach that the non-saccharide ingredient is a hydrophobic non-saccharide ingredient and further teaches emulsifying the hydrophobic non-saccharide ingredient with an emulsifier and water. The particular method steps of first combining the non-saccharide ingredient with an emulsifier and water, and then combining it with the saccharide derivative and spray drying the resulting composition, or combining all of the ingredients together at the same time and spray drying the resulting composition, would not expect to provide a patentable distinction, absent unexpected results, because the resulting composition taught by Minoru in view of Maruka is a powdery composition, as is the claimed composition of Applicant.

17. Furthermore, it has been found that "selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results." See MPEP 2144.04 IV C.

18. Applicants' Claim 12 is written in a product-by-process format and as such, it is the novelty of the instantly claimed product that needs to be established and not that of the recited process steps. In re Brown, 173 USPQ 685 (CCPA 1972); In re Wertheim, 191 USPQ (CCPA 1976). Regarding Claim 12, since the product shown by the references is a powdery composition comprising a non-saccharide ingredient, the product is met.

Response to Arguments

19. It is noted that Maruka appears to teach the claimed saccharide derivative of α,α-trehalose of Claim 1 and since Minoru teaches a method of powderizing non-saccharide ingredients comprising a trehalose component for increasing the stability and flavor of foods and beverages, and Maruka teaches an amorphous saccharide derivative of α,α-trehalose that can be used in foods and beverages to impart flavor and stability, it would have been obvious to one of ordinary skill in the art to substitute one trehalose component for another, in a method of preparing stable flavor additions to foods and beverages.

Conclusion

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jenna A. Watts whose telephone number is (571) 270-7368. The examiner can normally be reached on Monday-Friday 9am-5:00pm.

21. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

22. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. SAYALA/
Primary Examiner, Art Unit 1794

/Jenna A. Watts/
Examiner, Art Unit 1794
January 25, 2010